This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A photonic buoy comprising:

a lengthy hull including a ballast portion of the hull which resides below the waterline and a top portion of the hull which is disposed above the waterline;

an optical bench including an imager within ~~at~~ the top portion of the hull, the optical bench configured to provide a panoramic view of the horizon; and

a transmission cable extending from the optical bench for transmitting video signals to a remote location.

2. (Currently amended) The photonic buoy of claim 1 in which the optical bench includes a conical mirror inside the top portion of the hull surrounded by a transparent wall and ~~a~~ the imager vertically oriented ~~imager~~ and aimed at the conical mirror.

3. (Currently amended) The photonic buoy of claim 1 in which the optical bench includes a conical prism sealed with respect to the top of the hull and ~~a~~ the imager vertically oriented ~~imager in the hull~~ and aimed at the conical prism.

4. (Original) The photonic buoy of claims 2 or 3 in which the imager is a CCD camera.

5. (Original) The photonic buoy of claims 2 or 3 in which the imager is an infrared camera.

6. (Original) The photonic buoy of claim 1 further including a sensor in the hull which detects the attitude of the buoy.

7. (Original) The photonic buoy of claims 2 or 3 in which the transmission cable includes optical fibers and further including a converter within the buoy responsive to the imager which converts image data into optical data for transmission over the optical fibers of the transmission cable.

8. (Original) The photonic buoy of claim 1 in which the hull includes a self scuttling plug therein.

9. (Original) The photonic buoy of claim 1 in which the hull has a diameter compatible with a launcher of a submarine.

10. (Original) The photonic buoy of claim 1 in which the ballast portion includes a weight disposed therein.

11. (Original) The photonic buoy of claim 1 in which the ballast portion includes a spool of the transmission cable.

12. (Currently amended) A photonic buoy system comprising:

a buoy including a lengthy hull with a ballast portion <u>of the hull</u> which

resides below the waterline and a top portion of the hull which is disposed above the waterline;

an optical bench ~~at~~ including an imager within the top portion of the hull, the optical bench configured to provide a panoramic view of the horizon;

a workstation remote from the hull, responsive to the optical bench, and including a display and image stabilization circuitry for presenting a composite image of the horizon on the display; and

a transmission cable interconnecting the optical bench and the workstation.

13. (Original) The photonic buoy system of claim 12 in which the ballast portion of the hull includes a first spool of transmission cable.

14. (Original) The photonic buoy system of claim 12 in which the workstation is located on board a submarine which includes a second spool of the transmission cable.

15. (Original) The photonic buoy system of claim 12 in which the image stabilization circuitry includes frame rate image processing software and hardware.

16. (Currently amended) The photonic buoy system of claim 12 in which the optical bench includes a conical mirror inside the top portion of the hull surrounded by a transparent wall and ~~a~~ the imager vertically oriented ~~imager~~ and aimed at the conical mirror.

17. (Currently amended) The photonic buoy system of claim 12 in which the optical

bench includes a conical prism sealed with respect to the top of the hull and ~~a~~ the imager vertically oriented ~~imager in the hull~~ and aimed at the conical prism.

18. (Original) The photonic buoy system of claims 16 or 17 in which the imager is a CCD camera.

19. (Original) The photonic buoy system of claims 16 or 17 in which the imager is an infrared camera.

20. (Original) The photonic buoy system of claim 12 further including a sensor in the hull which detects the attitude of the buoy.

21. (Original) The photonic buoy system of claims 16 or 17 in which the transmission cable includes optical fibers and further including a converter in the buoy responsive to the imager which converts image data into optical data for transmission over the optical fibers of the transmission cable.

22. (Original) The photonic buoy system of claim 12 in which the hull includes a self scuttling plug therein.

23. (Original) The photonic buoy system of claim 12 in which the hull has a diameter compatible with a launcher of a submarine.

24. (Original) The photonic buoy system of claim 12 in which the ballast portion includes a weight disposed therein.

25. (Currently amended) A photonic buoy comprising:

a lengthy hull including a ballast portion of the hull which resides below the waterline and a top portion of the hull which is disposed above the waterline;

a vertically oriented imager in the hull;

an optical element at the top portion of the hull configured to direct a panoramic view of the horizon to the vertically oriented imager; and

a transmission cable for transmitting video signals from the vertically oriented imager to a remote location.

26. (Original) The photonic buoy of claim 25 in which the optical element is a conical mirror.

27. (Original) The photonic buoy of claim 25 in which the optical element is a conical prism.

28. (Original) The photonic buoy of claim 25 in which the imager is a CCD camera.

29. (Original) The photonic buoy of claim 25 in which the imager is an infrared camera.

30. (Original) The photonic buoy of claim 25 further including a sensor in the hull which

detects the attitude of the buoy.

31. (Original) The photonic buoy of claim 25 in which the transmission cable includes optical fibers and further including a converter in the buoy responsive to the imager which converts image data into optical data for transmission over the optical fibers of the transmission cable.

32. (Currently amended) A photonic buoy comprising:

a lengthy hull including a lower ballast portion of the hull which resides below the waterline and a top portion of the hull which is disposed above the waterline;

an optical bench at the top portion of the hull configured to provide a panoramic view of the horizon, the optical bench including a conical mirror inside the top portion of the hull surrounded by a transparent wall and an imager aimed at the conical mirror.

33. (Currently amended) A photonic buoy comprising:

a lengthy hull including a lower ballast portion of the hull which resides below the waterline and a top portion of the hull which is disposed above the waterline;

an optical bench at the top portion of the hull configured to provide a panoramic view of the horizon, the optical bench including a conical prism sealed with respect to the top of the hull and an imager in the hull aimed at the conical prism.